WISDOM IS COMMON SENSE TO AN UNCOMMON DEGREE

THE REA LINEMAN

RURAL ELECTRIFICATION ADMINISTRATION — U. S. DEPARTMENT OF AGRICULTURE

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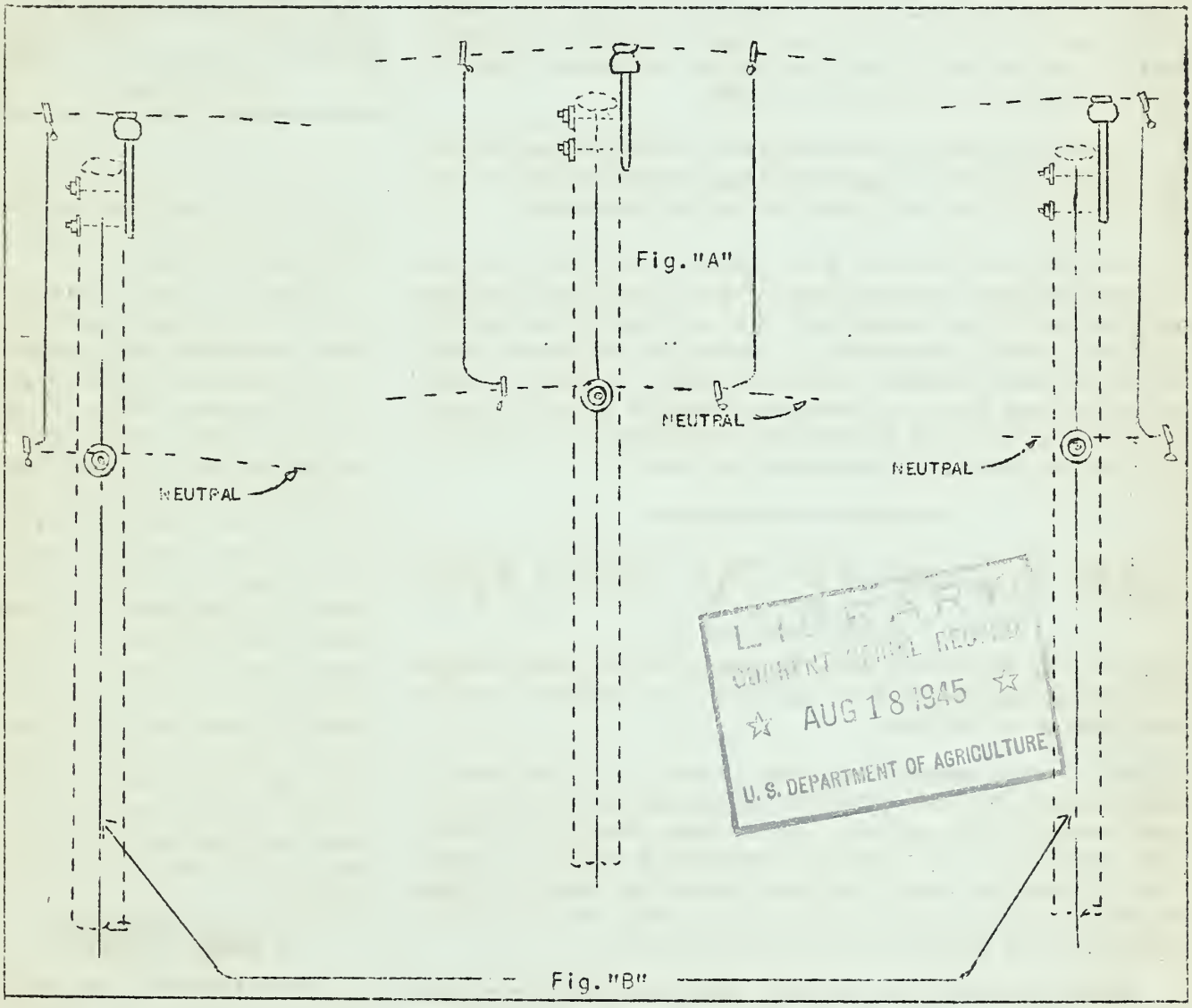
WHY USE PROTECTIVE GROUNDS?



Often we hear the question, "Where should protective grounds be installed?" While this question might be quite controversial, we believe the answer is, "Both ways in sight of the work area."

In Figure "A" where the job to be done might be to replace a pole, a broken insulator, a broken tie wire, or to install a guy or dead-end assembly for a tap take-off, protective grounds may be installed on that pole, as shown. But, where we have a conductor break, or some job that calls for dead-ending or sagging the conductor, that actually affects the tension, the protective grounds should be installed so that their weight will not

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for Employees of REA Systems

David A. Fleming, Editor

BEWARE THAT EMERGENCY CLIMB!

It is with much regret that we report the accidental death of two REA cooperative managers during April. One death was the result of electric shock and fall from a pole. This manager had the reputation of being a good lineman. At the time of his accidental death he was engaged in clearing up an outage caused by a tree on the line. The fallen tree was removed. Then the crew removed another tree nearby but misjudged its fall and the tree snapped the tap line conductors. Repairing the break at the main line junction, the manager climbed too high on the pole and contacted the hot phase.

The second occurrence was the result of an auto accident, not during working hours. In the passing of these managers, REA cooperatives lost two valuable men whose places will not be filled easily.

Those of us who have done some climbing in the past, but are not now often called on to climb poles and work on energized lines, may well take heed to the possibility of what may occur when we make that occasional climb in an emergency. In these times an emergency might arise quite often, because of manpower shortage. We believe we should all reduce these climbs, particularly on energized lines, to an absolute minimum, taking all possible safety precautions and keeping in mind that we may not be as active as we once were.

WHY USE PROTECTIVE GROUNDS?

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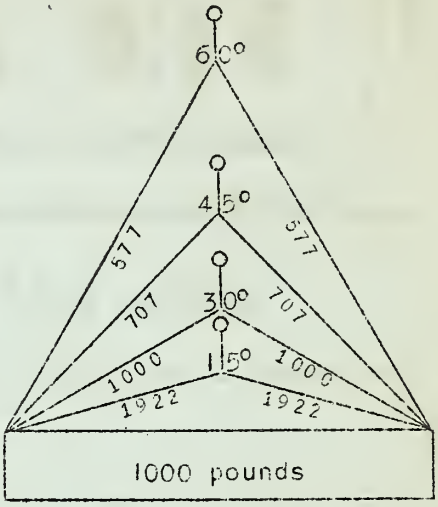
affect the sag between the poles, as shown by the two parts of Figure "B". The grounds thus will not be in the way of necessary blocks or hoist used at the work point.

In all cases rubber gloves should be worn on all poles carrying energized circuits, until protective grounds have been installed both ways in sight of the work area, and in no case should the tap jumper from the phase to the neutral be considered a protective ground. There is always the possibility that vibration may cause this jumper to break and contact a hot phase. And, of course, there is also the possibility that someone else might energize the line.

Protective grounds both ways means protection from accidental energization, lightning, two-way feed, joint construction, crossings with other power companies and the possibility of a member starting his old light plant system and connecting it through his wirings to your transformer with high voltage current energizing the main line.

This isn't mere speculation--all these things actually have happened in REA accident experience. Wear rubber gloves until these protective grounds are installed both ways in sight, regardless of what your experience and training may have been elsewhere.

HOW MUCH PULL ON SLINGS?



Many times when putting a sling on a load, we wonder, "How much pull can I put on this rope safely?"

That's a good question. Most of our present-day rope won't stand more than one-half of the strain that could be put on the pre-war manila rope. The chart above gives a clear picture of how to place slings on a load to eliminate pressure on the rope. You'll notice that the strain on ropes placed at an angle of 45 degrees or more is considerably less than that on ropes placed at angles less than 45 degrees. For safety, don't try to put on slings at less than a 45 degree angle between the base of the truck or other conveyor and the height of the middle of the load you're moving. That's the way to avoid dangerous rope accidents.

A GOOD RECORD

Gilbert Hurley, line foreman on the Drake Rural Electric Cooperative, Incorporated, Greenville, Ohio, has driven a cooperative truck 118,467 miles and worked 16,373 manhours without an accident. This is a commendable achievement. What is your record. Can you top Mr. Hurley?

HOW THEY UNLOAD POLES IN ILLINOIS

D. B. Bidle, Illinois Safety and Job Training Instructor, passed on to us this job procedure on "Method of Unloading Poles from Flat Car." We suggest that you look it over, and we are sure that Mr. Bidle will appreciate any comments that you might have. His address is, Agricultural Extension College, University of Illinois, Urbana, Illinois.

TOOLS AND EQUIPMENT

1. Safety cable 50 to 60 feet long with strong hook fastened permanently on one end and strong hook on other end fastened with a clamp so that cable can be adjusted for length. Cable should be 5/8" flexible steel or larger.

2. Large snatch block with not less than 6" pulley and strong enough to hold the load.

3. One or more coffing or pull lift hoists of 1½-ton capacity or larger.

4. Set of rope blocks, two sheaves or more with good grade 3/4" rope or larger. (Optional if winch truck is used.)

5. Small hand tools as needed, such as cant hooks, axes, bars, bolt cutters and hand saw.

INSPECTION

1. Inspect load to determine condition of stakes and bands and to see if load has shifted or is leaning. Check poles for length or class, number of poles on car and whether straight or crooked.

2. Inspect all tools and equipment to be sure they are in good condition.

SAFETY PRECAUTIONS

1. Spot the car at the desired location, preferably on a level spot and as far away from buildings and structures as possible. Set the brakes and block the car so that it will not roll unexpectedly.

SAFETY PRECAUTIONS (Cont'd)

2. Clear the grounds around the car and in the pole yard of rubbish and debris to prevent tripping and falling.

3. Place warning signs and danger flags along the track on each side of the car to prevent train crews from switching cars in and bumping the pole car and also to warn persons walking along the track.

4. Before starting to unload poles, it is well to put some cold cream, petroleum jelly or Unguentine on the hands and face to prevent creosote burns.

5. Do not get in front of the poles at any time unless they are securely tied with safety ropes or stakes have been put into the stake pockets.

6. Keep in mind at all times that unloading poles is dangerous and you cannot afford to take chances.

7. Take time enough to be safe. Analyze every job and every situation on every car before starting to move a pole.

PROCEDURE

1. Install safety sling around load and pull tight with coffing hoists. Hook the sling to the car on the unloading side about three or four feet from the ends of the poles. Put the middle part of the sling over the top of the load and down the back side to about two or three feet from the level of the bed of the car.

   If the center part of the cable is not at this location, an adjustment can be made in the length of the cable at the adjusting end. Hook one or more coffing hoists in stake pocket at the back side of car and in the middle of the sling and pull tight.

2. Put up the skids for the poles to roll down on, being sure they are strong enough to support the load and are securely fastened at the car.

3. Install winch line at this time, placing truck on the unloading side well away from the car. Run the winch line over top of load and through a heavy and strong snatch block (hooked to the car at the middle on the back side) and hook into the middle of the sling and pull tight. If no winch line is available, use a set of heavy two-sheave blocks with about 3/4" rope or larger hooked to the same place as the winch line at the back of car.

(Cont'd on page 4)

STAY ALIVE IN '45

When working on overhead lines during a storm, protect yourself with rubber gloves and protective grounds. This, of course, should be a must any time, but it is doubly important during bad weather. Remember--"Protective grounds will not dissipate a lightning surge 100%," when the stroke is near your working area.

Do not use hooks in trees, and do not use trees for shelter; they are extremely dangerous.

When replacing fuse, use an 8 ft. stick and stay down on the pole as far from the fuse as is possible. Do not inch up on the stick.

Be cautious when crawling energized poles with arresters on them. They may be defective.

Carry an extra pair of rubber gloves and clean cloth to dry them. Air-check your gloves before using.

Poles split by lightning are a hazard. Be careful. If they cannot be replaced immediately, rope guys and a ladder will help.

Do not stand directly under a switch when replacing fuse. Protect your eyes with goggles.

Tag your line, remove fuse holder if more than one crew is in the field.

Call your office as to location, trouble and approximate amount of time required to clear line.

Give adequate instructions to all men on procedure to follow.

Avoid haphazard work; sag lines properly.

Think and stay alive in '45.

---Chester A. High, Supervisor
OHIO SAFETY & JOB TRAINING

HOW THEY UNLOAD POLES IN ILLINOIS

(Cont'd from page 3)

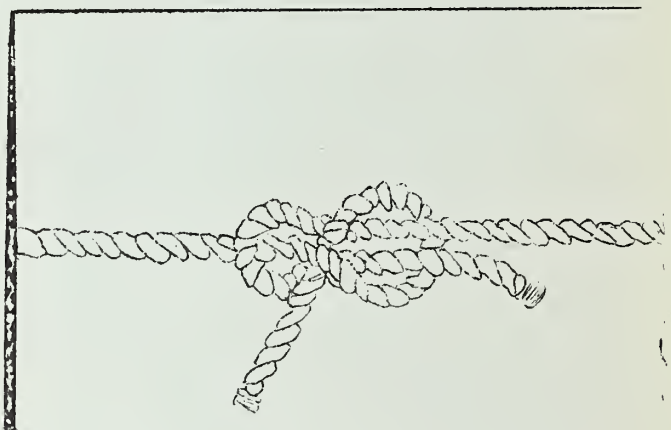
Hitch the truck to the end of the fall line at a point where the rope will not cross any tracks and where the truck can be driven forward to let the load down. When the fall line is pulled tight by the truck, remove all stakes from the front or unloading side of car, then cut the shipping bands from the back side of the car and remove the coffing hoists from the middle of the sling.

When the hoists are removed, the men can get away from the load to a point where they can prevent anyone from walking in front of or behind it. When all is clear, drive the truck forward and let the load down. If winch is used, slack the winch line slowly to let the load down.

4. After the poles have all rolled down of their own accord, inspect those still on the car to see if any are in a dangerous position or are apt to roll down. If so, roll them down before attempting to move any off the skids and pile them up.

5. Continue to roll them down and back onto the pile until they are all unloaded. Be very careful always to stay in a safe working position and work in a safe manner, taking time to analyze every situation before a pole is moved.

6. Clear the car of all stakes and wires, remove the skids, and then remove the flags and warning signs.



TRY THIS WHEN TYING A THROW LINE ONTO A HAND LINE--EASY TIED AND EASY UNTIED.

SNAKE-BITE KIT

We are approaching the warm weather season that brings out the poisonous snakes. It's time to bring out the snake-bite kits for careful inspection to see what replacements may be needed before they are placed on the trucks.

Snake-bite kits are available as a unit addition to your first-aid kit, or in a separate kit in a convenient pocket size. A list of manufacturers will be furnished on request to *"The REA Lineman."*